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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,788	12/02/2003	Bin Li	I-2-0480.1US	3818

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VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
CORRIELUS, JEAN B	
ART UNIT	**PAPER NUMBER**
2637	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,788	LI ET AL.	
	Examiner	Art Unit	
	Jean B. Corrielus	2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-10,12-17,19-22,24-29,31-34 and 36-38* is/are rejected.

7)☒ Claim(s) *6,11,18,23,30 and 35* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Please include reference to the provisional application in the first paragraph of the specification.

Claim Objections

2. Claims 2-24, 26-36 and 38 are objected to because of the following informalities:

Claim 2, line 2 "element" should be inserted after "antenna".

As per claim 3, line 8, shouldn't "for each antenna" be replaced by "of each antenna"?

Claim 4, line 2, "the input" should be replaced by "an input" shouldn't "from" be changed to "to"? In addition, claim 4 lines 2-3, recites "an (the) input to (from) all of the rake fingers is an output from the despreader of all the rake fingers" such limitation is not consistent with the drawing and the specification paragraph 0026 that shows/teaches " respective input to the complex weight gain generation device 205 as an output from the despreader 215 of all rake fingers" see fig. 2 and elements 215 and 205.

Claim 5, lines 3-4, ", producing complex weight gains" is redundant and should be deleted.

Claim 6, line 2, "a channel" should be replaced by "said channel"; line 3, "matix" should be replaced by "matrix".

Claim 7, line 2, "produced" should be replaced by "determined" for consistency.

As per claim 8, see claim 3.

As per claim 9 see comment made in reference to claim 4.

Claim 10, line 2, "for determining" should be replaced by "determines"; lines 3-4, ", producing complex weight gains" is redundant and should be deleted.

Claim 11, line 2, "a channel" should be replaced by "said channel".

Claim 12, line 2, "produced" should be replaced by "determined" for consistency.

Claim 13, line 1, recites "a wireless transmit or receive unit" however it is noted that the limitations recited in the body are only directed to a "receive unit".

Claim 14, line 2, "element" should be inserted after "antenna".

Claim 15, line 1, recites "a wireless transmit or receive unit" however it is noted that the limitations recited in the body are only directed to a "receive unit"; line 8, shouldn't "for each antenna" be replaced by "of each antenna"?

As per claim 16, see claim 4.

As per claim 17, see claim 5.

As per claim 18, see claim 11.

As per claim 19, see claim 12.

As per claim 20, see claim 15.

As per claim 21, see claim 4.

As per claim 22, see claim 10.

As per claim 23, see claim 11.

As per claim 24, see claim 12.

As per claim 26, see claim 14.

As per claim 27, line 8, shouldn't "for each antenna" be replaced by "of each antenna"?

As per claim 28, see claim 4.

As per claim 29, see claim 5.

As per claim 30, see claim 11.

As per claim 31, see claim 12

As per claim 32, see claim 27.

As per claim 33, see claim 4.

As per claim 34, see claim 5.

As per claim 35, see claim 11.

As per claim 36, see claim 12.

As per claim 38, see claim 2.

Note that any claim whose base claim is objected is likewise objected. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-10, 12-17, 19-22, 24-29, 31-34 and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Rashid-Farrokhi et al US Patent No. 6,304,750.

As per claim 1, Rashid-Farrokhi et al discloses a receiver (fig. 1) comprising a plurality of antenna elements (151) for receiving a data signal; for each antenna element (151), a plurality of Rake fingers (155) coupled to the antenna element (151), each finger (155) having a delay (157) , a despreader (159) and a complex weight gain weighing device (163) ; a complex weight gain generation device (169) coupled to an output of each despreader (159) and an input of each complex weight gain device (163); and a summer (165) coupled to an output of each complex weight gain device (163), producing an estimate (OUT) of the data signal.

As per claim 2, Rashid-Farrokhi et al further teaches for each Rake finger (155), the delay (157) is coupled to its antenna element (151), the despreader (159) is coupled to an output of the delay (157) and the complex weight gain device (163) is coupled to an output of the despreader (159).

As per claim 3, Rashid-Farrokhi et al teaches a receiver (fig. 1) comprising: a plurality of antenna elements (151) for receiving a data signal; for each antenna element (151), a plurality of Rake fingers (155), each Rake finger (155) for processing a received multipath component of the received data signal of its antenna element 151 by applying a complex weight gain from the weight calculator (169) to that received multipath component (see fig. 1); a complex weight gain generator (160) for determining the complex weight gain for each Rake finger (155) for each antenna element (151) using an input from all of the Rake fingers (see fig. 1); and a summer (165) for combining an output of each Rake finger (155) to produce an estimate (OUT) of the data signal.

As per claim 4 Rashid-Farrokhi et al that each Rake finger 155 includes a despreader 159 and the input from (i. e Ci and Vo) all of the Rake fingers is an output from the despreader of all the Rake fingers (i.e. the output signal feedback to the weight calculator 169 to generate the Ci and V0 input signals).

As per claim 5, Rashid-Farrokhi et al further teaches the complex weight gain generator determines the complex weight gains by taking a complex conjugate transpose of an inverse of a noise correlation matrix multiplied by a channel estimate, producing complex weight gains see col. 3, line 54-col. 4, line 15.

As per claim 7, the complex weight gain (Vo) applied at each finger (155) is an element of a resulting vector of the produced complex weight gains(see col. 3, line 54-col. 4, line 15).

As per claim 8, see claim 3.

As per claim 9, see claim 4.

As per claim 10, see claim 5.

As per claim 12, see claim 7.

As per claim 13, see claim 1.

As per claim 14, see claim 2.

As per claim 15, see claim 3.

As per claim 16, see claim 4.

As per claim 17, see claim 5.

As per claim 19, see claim 7.

As per claim 20, see claim 3.

As per claim 21, see claim 4.

As per claim 22, see claim 5.

As per claim 24, see claim 7.

As per claim 25, see claim 1 and in addition, the apparatus is part of a base station see col. 2, lines 63-65.

As per claim 26, see claim 2.

As per claim 27, see claim 3 and in addition, the apparatus is part of a base station see col. 2, lines 63-65.

As per claim 28, see claim 4.

As per claim 29, see claim 5.

As per claim 31, see claim 7.

As per claim 32, see claim 27.

As per claim 33, see claim 4.

As per claim 34, see claim 5.

As per claim 36, see claim 7.

As per claim 37, see claim 1 and in addition, the apparatus has to be an integrated circuit see col. 2, lines 44-46.

As per claim 38, see claim 2.

Allowable Subject Matter

5. Claims 6, 11, 18, 23, 30 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jean B Corrielus
Primary Examiner
Art Unit 2637 11-23-05